CURRICULUM DEVELOPMENT IN VOCATIONAL EDUCATION: ACHIEVING BALANCE AND COHERENCE

Dr Christopher Parkin
Consultant, Curriculum and Qualifications Development

Index: Curriculum Development, Balance, Coherence, Relationships, Change

Abstract: In the era of lifelong learning, with the potential of new information technologies to facilitate learning and assessment, the need for curriculum balance and coherence is as important as ever. Lessons from the past should be applied to future development. Over specification of curriculum requirements must be avoided, alternative viewpoints of coherence accommodated, and continuity in development sought. Curriculum components should be in balance, with appropriate emphasis on valued learning experiences. Emphasis should be given to developing key skills in breadth and depth, and to a balance of accountability and flexibility. A template of interrelated key descriptors is suggested.

INTRODUCTION

The context

The development of VET curricula and qualifications is needs to be flexible. Curriculum structures must be responsive to changing knowledge, skills and technologies, keeping up with the pace of industrial and occupational change, and to changing learning environments. Curriculum provision needs to accommodate the varying needs and intentions of learners to progress both to higher levels of education and to employment opportunities. The curriculum must provide a foundation for the future, develop individuals' confidence towards meeting unforseeable needs, and enable them to build their achievements into personal qualifications. No longer can an individual expect lifetime employment with a single employer. In our 21st century society people must grow to take responsibility for their own development, with expectations that employers will support them where this is applicable to their needs.

Concepts for characterising recent and future curriculum developments in Europe have been reviewed and developed (Kamarainen, 1999). In the USA the 'Tech Prep' programmes demonstrate the development of integrated curriculum standards and the contextualisation of learning (see for example Hull and Greville, 1998). In the UK emphasis on national control of qualification and curriculum content and quality has increased, and attempts are in progress to bring initial vocational and academic education closer together in one framework (Qualifications and Curriculum Authority, 1999) in response to the continuing calls for rationalisation and coherence of provision. But there is need to ensure local (college and school) providers can be responsive to the needs of the economy and of employers, and increasingly for individualised rather than institutionally based learning.

In the UK, and no doubt elsewhere, there are important lessons about curriculum development processes, to be learned from previous changes. This paper illustrates some of these lessons, drawn by the author from his involvement in vocational curriculum development and evaluation (in England and Wales), that should be applied when seeking to ensure balance and coherence in curriculum provision. The purpose is to stimulate thinking about their relevance and applicability

in curriculum change for life long learning with information technologies.

THE BUSINESS OF CURRICULUM DEVELOPMENT

Curriculum development generally follows a pattern of deliberate planning, which involves the stages of situation and needs analysis, design, implementation (delivery) and evaluation. These stages occur mainly consecutively with some concurrent activity. Most curriculum development is undertaken in response to identification of the need for action, to revise existing provision and sometimes to create quite new provision.

Successful curriculum development requires systems thinking, that is to say to consider at all times the whole of the system (and the interrelationships in the system) and not just the parts – to consider the effect of decisions made in one area upon another. This need is as paramount in the age of new information and learning technology and lifelong learning as before. A systems approach seems so obvious in principle and yet can be so difficult to practice. The often quoted curriculum theorist and psychologist Jerome Bruner (1966) said 'a curriculum is a thing in balance, which cannot be developed first for content, then for teaching method, then for some other particular feature'. How true this remains!

Successful curriculum development involves achieving balance and coherence:

- in the relationships between the components of learning – the aims and intended outcomes, the content - the knowledge and skills, the learning experiences, the assessment; and
- in the relationships with and between people, through accompanying staff and institutional development, attending to the staff and organisational implications of the proposed curriculum and qualifications, whether in the macro (national) context or involved in implementation (the local institutions and providers).

By balance is meant a state of harmony or equilibrium of the parts which make up the whole. By coherence is meant the logic and consistency in the relationships between components so that they are planned and fit for purpose. We need balance and coherence in the processes of changing the curriculum, in the design and in implementation.

There should be a balance, for example between:

the need for regulation of qualifications and the need for flexibility and responsiveness to demands;

serving national economic and industrial needs, and individual and personal needs;

general core knowledge and skills, and employer needed knowledge and skills;

immediate and longer term needs;

national/ central control and local control.

To achieve and maintain balance requires compromise between alternatives.

SELECTED LESSONS WHICH SHOULD BE APPLIED

- **IN CHANGING CURRICULA AND QUALIFICATIONS**

Four general lessons towards achieving balance and coherence:

Over specification of the curriculum must be avoided - the requirements which curriculum designers choose to specify, subsequently on implementation take precedence over matters which are not specified regardless of their relative importance. Clearly the curriculum specification - the aims, the outcomes, the content, the assessment requirements must be addressed by students and teachers. However a specification naturally constrains the behavior of teachers and learners, and to such an extent that other potential beneficial outcomes and behaviors are restricted and may not occur. It is important therefore to avoid over-specification and to control strategic matters but not to seek to control the detail. Care must be taken that what is measurable does not displace what may be equally important.

There will be alternative views about what is coherence. Coherence may mean different things from the viewpoints of the designer (coherence in theory), teacher (delivery coherence), learner (personal coherence) or employer (user coherence). It can be argued that personal and user coherence are particularly important. The advances in information technology give greater opportunity to demonstrate what is important and the curriculum framework must enable a flexible response. Combinations of knowledge whether academic or vocational, general or job specific must be possible and a common template can help to assure parity. Students have differing interests, motivations, employment needs and not least prior knowledge and experience. A coherent curriculum will enable them to make choices accordingly, with guidance and support.

Continuity in development is necessary, making changes in the light of continuing evaluation of past provision, but not based only on the most recent evaluation. Developers and managers with new responsibilities are keen to learn from the lessons of the immediate precursors, but so often do not allocate the time or resources to look back at earlier provision and evaluations. In making changes which may be needed, don't destroy the good and successful aspects of the old in creating the new, but build on and enhance the past.

Reasons for resistance to change must be respected and understood, but innovation is doing new things to achieve new purposes and successful curriculum innovation will involve a mixture of strategies. Change requires concomitant resource use and should take the longer view.

- **IN CURRICULUM DESIGN**

It is necessary to have a balance, an equilibrium, between the key components of the curriculum - the objectives (intended outcomes, competencies); the knowledge and skills content – key concepts, key skills; the learning experiences – key activities; the assessment strategies and methods, giving due accent on learning experiences and modes, and the crucial nature of work related experience.

In developments in the UK, for example, over a period of time different innovations have emphasised different components to the relative exclusion of others, resulting in curricula out of balance and need for further change.

The specification controls intentionally the shape of the curriculum, but so often designers' decisions introduce constraints unintentionally, without appreciating the effects they will have on learning. For example emphasis on detailed objectives/outcomes and assessment criteria (as introduced by the Technician Education Council in the 1970's, and again in the development by NCVQ of General National Vocational Qualifications, GNVQs, in the 1990's) led to an imbalance with respect to learning experiences and unanticipated effects on the use of time by teachers and by students. If we demand too precise or too extensive objectives, or if the assessment system is too tightly defined, then the constraints may prevent creative teaching and learning. As Eisner (2000) states 'as objectives and standards become more precise they proliferate and swamp teachers' capacity to deal with them.' Similarly if content is specified in detail, accompanied by a tightly controlled external assessment regime with a view to achieving externally controlled standards, a consequence may be inflexibility and responsiveness to students interests and motivations, and to employers needs. So the appropriate course of action is to consider the implications and interrelationships of the key curriculum features required and set up processes which control the quality of operation (e.g. to ensure that learning is not being attempted for which resources are not adequate).

Overcome the reluctance to state learning experiences and activities. While a list of mandatory learning experiences and activities could become as stifling as over explicit objectives and assessment, failure to specify learning activities which are known to be beneficial means opportunities missed to shape the direction of learning. At this time of rapid expansion of electronic communication it is vital that there is sufficient flexibility for learners to use these newer leaning environments, and to critically appraise their use. Contextualised learning must be emphasised with attention to active modes of learning. As Lave (1991) says, 'knowing' is never context free and learning is a 'social collective phenomenon' rather than an 'individual psychological one'. Work experience and work based is crucial. A curriculum statement must be a stimulating statement, which enables methods to be chosen to meet the need of individuals.

Avoid over prescription and over specification, of any one component at the expense of others. Alternative practices should be evaluated to determine the optimum style of specification.

For example, so often in curriculum development, at least in the UK, have assessment issues and control dominated concerns. Recognise that assessment is usually a sampling process in which methods must be related to the kinds of outcomes.

- **IN CURRICULUM IMPLEMENTATION**

In curriculum design the focus is on defining the learning which should take place. On implementation the curriculum becomes the medium through which teachers and learners interact.

Key skills must be developed in appropriate breadth, and extended in depth (to a higher level), rather than those already achieved rehearsed. It should be the learners' concern and must be the teacher's role to ensure each overcomes their individual knowledge and skills deficiencies, and that their skills are extended and new skills developed rather than time spent on rehearsing existing

skills without progression. A great deal of emphasis has been placed on designing skill deficiency tests and processes of monitoring skill development through logbooks and profiles. It is the teacher's job to educate (lead) the student forward to achieve new skills. It has been my experience that students who have mastered certain skills at a particular level, may be given further practice at that level rather than their development extended to a higher level or time spent on developing other skills in which the student is deficient. The challenge is to combine breadth and depth for the individual and recognise the breadth of skills required. While emphasis is being placed in the UK (and elsewhere) on the skills of 'application of number', 'communication' and 'information technology', which now form a new Key Skills Qualification, and on the skills of 'working with others', 'learning to learn' and 'problem solving', there are others, notably for example, working independently and flexibly, being entrepreneurial and self motivated, handling financial affairs. Emphasis must be on developing individuals' capability to plan their own learning. Problem solving requires being able to apply knowledge and conceptual understanding in undertaking tasks in particular areas.

An appropriate balance must be managed between the accountability required for quality and the flexibility which engenders creativity. Many regulations and constraints may ensure quality within a given framework, but at the expense of flexibility and creativity. This is true for the work of both teachers and learners. Coherence may be achieved through quality systems which monitor among other things: programme delivery, learner support structures, activities and assignments which integrate key skills, team work by teachers and students, communication between teachers and students, good leadership in touch with the learners, and evaluation of the impact of the curriculum upon them.

Avoid assessment overload, recognising that assessment of learning is a sampling process. Distinguish clearly between the role of assessment in the process of checking and reinforcing learning and assessment to measure achievement or competence. In a national qualification system balance local, internal assessment, and external assessment. The use of information technology gives opportunities for the management of assessment giving flexibility of time of testing, objectivity, for updating, and for feedback. Information technology enables the development of interactive questions and virtual problem solving. Nevertheless, a balance is needed with assessment methods which involve the judgements by qualified teachers of assignment work, portfolios, projects and other evidence following their interaction with students, and subject to independent moderation processes.

Do not underestimate the time needed for learning and achievement. Aptitudes of individuals must be catered for. Younger learners, those returning to learning, and learners in new territories, need an external structure in which learning is managed and supported. They need initially at least, help with managing their learning and towards becoming more autonomous. Most learners need to interact with others as part of the process of learning.

IN CONCLUSION

In the light of the above, a template for the specification of a curriculum with a unitised structure, might comprise

(a) the key descriptors at national (or sub-national) level which embrace the wide range and, in

principle totality, of all possible curricula and qualifications, which enable kinds of learning and achievement at specified levels to be combined, and provides pathways for progression;

.(b) the key descriptors for the curriculum for the individual learner, or group of learners with similar needs.

(a) Descriptors of the National (or sub –national) framework might be:

Programme Area
- Title and Level
- Purpose and Aims
- Structure - Combinations of Units, core and optional Units, rules of combinations
- Key skills - integrated and contextualised
- Work experience/work related requirements
- Assessment strategies

Units of Achievement (National or sub-national or local)
- Title and Level
- Pre-requisite knowledge, skills and experience
- Learning Outcomes (with assessment criteria)
- Content: Knowledge and Skills
- Content: Learning Experiences
- Assessment methods
- Indicative resource- based, individual, and group learning opportunities

(b) Descriptors of the curriculum for the individual learner might be:

Criteria for choice of programme and Units:
- Relevance to future work and/or educational progression opportunities
- Relevance to personal interests, motivations and needs
- Aims: short and long term
- Key skills - levels and breadth

Chosen Programme and Units:
- Aims, learning outcomes and content
- Timetable
- Learning arrangements: work based - work experience
  learning centre based / teacher led / independent
  group work with other learners
  interaction with learning materials and resources
- Assessment arrangements: as required by Units

Continuing evaluation of progress

Identification and review of personal pathway and progression

Some unforseen and unanticipated learning experiences may arise within individuals' programmes from their working and social contexts and interactions. A balanced and coherent curriculum will accommodate the consequential and important beneficial outcomes.

REFERENCES

Bruner, J (1966): Towards a Theory of Instruction, Havard University Press, Cambridge, Massachusetts.

Eisner, EW (2000): Those who ignore the past….., J. Curriculum Studies, Vol 32, No 2, 343 –357

Hull, D and Greville, J (1998): Tech Prep The Next Generation, Center for Occupational Research and Development, Waco, Texas, USA.

Kamarainen, P (1999): Key Qualifications and New Learning Concepts, IVETA 1999 Conference, Sydney; and Kamarainen, P and Streumer, J (1999): J. Curriculum Development, New Learning Environments and Transfer of Innovations in Europe, in CEDEFOP (1998), *Vocational Education and Training – the European Research Field*, Background Report, Vol. 2, pp155 –182.

Lave, J. (1991): Situated learning in communities of practice, in Resnick , L et al (Eds), Perspectives on Socially Shared Cognition, American Psychological Association, Washington.

Qualifications and Curriculum Authority (1999): Curriculum 2000, London.

University for Industry (1999) Learning Centres

Discussions with colleagues of the Further Education Development Agency and of other bodies during previous development and evaluation projects are gladly acknowledged.

CORRESPONDENCE

Dr Christopher Parkin

Consultant, Curriculum and Qualifications Development

14 Grasmere Close Dunstable LU6 3AP

England UK

Phone: +44 1582 472173

Fax: +44 1582 472173

e-mail: chparkin@email.msn.com